

Docket 03280088AA
Serial No.: 10/658,712

2

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

- 1 1 (Original). A cleaning device for cleaning an orifice surface of an inkjet
2 head and a different level member having a surface at a different level than
3 the orifice surface, the different level member forming a step between the
4 orifice surface and the surface of the different level member the orifice
5 surface being formed with a row of nozzle orifices, the cleaning device
6 comprises:
7 an air flow generating unit formed with a suction hole positioned at
8 the nozzle orifice, the air flow generating unit generating a spiraling
9 current by sucking air into the suction hole, the air flow generating unit
10 sucking ink from the nozzle orifice by drawing the ink in with the spiraling
11 current.
- 1 2 (Original). The cleaning device as claimed in claim 1, wherein the air
2 flow generating unit sucks air in through the suction hole at asymmetrical
3 flow velocity and flow rate about the row of nozzle orifices.
- 1 3 (Original). The cleaning device as claimed in claim 1, wherein the air
2 flow generating unit includes:
3 a suction hole member formed with the suction hole;
4 a negative pressure generator that generates a negative pressure at
5 the suction hole; and
6 a positioning unit that positions the suction hole member at a
7 suction position wherein the suction hole confronts the nozzle orifice and
8 the different level member.
- 1 4 (Original). The cleaning device as claimed in claim 3, wherein a gap is

Docket 03280088AA
Serial No.: 10/658,712

3

2 formed between the suction hole member and at least one of the orifice
3 surface and the different level member, the gap having a size that is
4 asymmetric about the row of nozzle orifices.

1 5 (Original). The cleaning device as claimed in claim 4, further comprising
2 a stage unit that moves the suction hole member following the row of
3 nozzle orifices formed in the orifice surface.

1 6 (Original). The cleaning device as claimed in claim 3, wherein the
2 suction hole member is formed with a plurality of suction holes, the
3 negative pressure generator generates the negative pressure at at least two
4 adjacent ones of the plurality of suction holes at a time while sequentially
5 suctioning the plurality of suction holes.

1 7 (Original). The cleaning device as claimed in claim 3, wherein the
2 suction hole member disposed at the suction position deforms while
3 pressing against the orifice surface and the different level member without
4 contacting the nozzle orifice.

1 8 (Original). The cleaning device as claimed in claim 3, wherein the
2 suction hole member disposed at the suction position is distanced from the
3 orifice surface without contacting the orifice surface.

1 9 (Previously Presented). A cleaning device for cleaning an orifice surface
2 of an inkjet head, the orifice surface being formed with a row of nozzle
3 orifices, the cleaning device comprising:
4 an air flow generating unit formed with a suction hole positioned at
5 the nozzle orifice, the air flow generating unit generating a spiraling
6 current by sucking air into the suction hole, the air flow generating unit
7 sucking ink from the nozzle orifice by drawing the ink in with the spiraling

Docket 03280088AA
Serial No.: 10/658,712

4

8 current.

1 10 (Previously Presented). An inkjet recording device comprising:
2 an inkjet head including:
3 an orifice surface formed with a row of nozzle orifices;
4 an ink ejection unit that ejects ink droplets from each of the
5 nozzle orifices; and
6 a cleaning device including an air flow generating unit formed with
7 a suction hole positioned at the nozzle orifice, the air flow generating unit
8 generating a spiraling current by sucking air into the suction hole, the air
9 flow generating unit sucking ink from the nozzle orifice by drawing the ink
10 in with the spiraling current.

1 11 (Previously Presented). The inkjet recording device as claimed in claim
2 22, further comprising a movement mechanism that moves the inkjet head
3 between a recording position and a cleaning position, the different level
4 member including a charge deflection electrode formed with an ink
5 reception portion.

1 12 (Original). The inkjet recording device as claimed in claim 10, wherein
2 the air flow generating unit sucks air in through the suction hole at
3 asymmetrical flow velocity and flow rate about the row of nozzle orifices.

1 13 (Previously Presented). The inkjet recording device as claimed in claim
2 22, wherein the air flow generating unit includes:
3 a suction hole member formed with the suction hole;
4 a negative pressure generator that generates a negative pressure at
5 the suction hole; and
6 a positioning unit that positions the suction hole member at a
7 suction position wherein the suction hole confronts the nozzle orifice and

Docket 03280088AA
Serial No.: 10/658,712

5

8 the different level member.

1 14 (Original). The inkjet recording device as claimed in claim 13, wherein
2 a gap is formed between the suction hole member and at least one of the
3 orifice surface and the different level member, the gap having a size that is
4 asymmetric about the row of nozzle orifices.

1 15 (Original). The inkjet recording device as claimed in claim 14, further
2 comprising a stage unit that moves the suction hole member following the
3 row of nozzle orifices formed in the orifice surface.

1 16 (Original). The inkjet recording device as claimed in claim 13, wherein
2 the suction hole member is formed with a plurality of suction holes, the
3 negative pressure generator generates the negative pressure at at least two
4 adjacent ones of the plurality of suction holes at a time while sequentially
5 suctioning the plurality of suction holes.

1 17 (Original). The inkjet recording device as claimed in claim 13, wherein
2 the suction hole member disposed at the suction position deforms while
3 pressing against the orifice surface and the different level member without
4 contacting the nozzle orifice.

1 18 (Original). The inkjet recording device as claimed in claim 13, wherein
2 the suction hole member disposed at the suction position is distanced from
3 the orifice surface without contacting the orifice surface.

1 19 (Previously Presented). The inkjet recording device as claimed in claim
2 22, wherein the different level member is attached to the orifice surface.

1 20 (Previously Presented). The inkjet recording device as claimed in claim

Docket 03280088AA
Serial No.: 10/658,712

6

2 9, wherein the air flow generating unit sucks air in through the suction hole
3 at asymmetrical flow velocity and flow rate about the row of nozzle
4 orifices.

1 21 (Previously Presented). The cleaning device as claimed in claim 1,
2 wherein the different level member is attached to the orifice surface.

1 22 (Previously Presented). The inkjet recording device as claimed in claim
2 10, wherein the inkjet head further includes a different level member
3 having a surface at a different level than the orifice surface, the different
4 level member forming a step between the orifice surface and the surface of
5 the different level member.

6 23 (New). The inkjet recording device as claimed in claim 10, wherein said
7 suction hole is positioned on a suction hole member tilted with respect to
8 the nozzle orifice surface.

9 24 (New). The inkjet recording device as claimed in claim 10, wherein said
10 suction hole is positioned on a suction hole member having a tip end cut in
11 a slant in order to provide an asymmetrical gap about the nozzle orifice.